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XXXI.—*Notes and Descriptions of some new and rare British Spiders.* By the Rev. O. P. CAMBRIDGE, M.A., C.M.Z.S.

[Plate VIII.]

IN his very able work on European Spiders, published in 1869–70, Dr. T. Thorell notices, as a remarkable fact, that the number of known spiders of Great Britain and Ireland no more than very nearly equalled those of Sweden and Norway—304 species in the former and 308 in the latter countries; and he suggests that the British Islands ought, from their more southerly position and warmer climate, to possess a richer spider-fauna than the peninsula of Sweden and Norway. Dr. Thorell, as a subsequent note attests, was only acquainted at that time with Mr. Blackwall's work on the Spiders of Great Britain and Ireland—being then unaware that since the publication of that work in 1864 numerous new species had been recorded, in various natural-history journals, as indigenous (chiefly) to England.

At the present time the number of known British spiders (including those here described as new) amounts to 474; while every new district searched, and even some long- and well-worked localities, still reveal species not before known to be British. Not only are Devonshire and Cornwall almost an untried district, but very few spiders have yet been authenticated in Ireland, whose comparatively mild and humid climate is probably favourable to the existence of many spiders not met with in England and Scotland. Of the few spiders

yet published as Irish no more than eight are peculiar to Ireland; and some even of those are obscure and perhaps doubtful species. Thus no general work can at present, without a serious misnomer, be entitled either "British Spiders" or "Spiders of Great Britain and Ireland." Our knowledge of Scotch spiders is rapidly advancing, thanks to the fine collections kindly sent to me by Mr. James Hardy and Mr. J. H. W. H. Traill; will not some resident entomologists in Ireland pay some attention to spiders during their collecting-expeditions? The trouble of collecting and bottling spiders is very slight compared with that of the preservation and setting-out of the Insecta; and a few bottlefuls collected, even indiscriminately, at different times of the year and in different localities, would soon make us acquainted, at least, with the commoner species. A published list of these might then possibly stir up some one to collect and investigate Irish spiders more thoroughly and systematically.

I need scarcely add that it will give me great pleasure to receive and determine any spiders sent to me from Ireland.

Genus ATYPUS, Latr.

Atypus piceus, Sulzer. Pl. VIII. fig. 2.

Atypus Sulzeri, Blackw. Spid. Great Brit. & Ireland, p. 14, pl. 1. fig. 1 :
Cambr. System. List of Brit. Spid., Linn. Trans. xxx. p. 320.

A. affinis, Cambr. System. List of Brit. Spid., Linn. Trans. xxx. p. 320.

A. anachoreta, Auss. Beit. zur Kenntn. der Arachn.-Fam. der Territoriarie, Thor., Verhandl. k.-k. zool.-bot. Gesellsch. in Wien, 1871, Band xxi. p. 133.

The determination of the European species of the genus *Atypus* seems to be a matter of considerable uncertainty, and the subject must be said to be as yet somewhat confused. Upon a close comparison made by Dr. Thorell in 1873 of the type specimen of Mr. Blackwall's figure and description of the male of his *A. Sulzeri*, sent to him by myself, with the type specimen of *A. anachoreta*, Auss. (the latter lent to him by Dr. L. Koch), Dr. Thorell decided that *A. Sulzeri*, Bl., ♂, and *A. anachoreta*, Auss., are identical, and (on other grounds) that both are identical with *A. affinis*, Eichw.

A female sent to Dr. Thorell, taken by myself in Portland, was decided to be identical with *A. piceus*, Sulz., and the same as the female of Mr. Blackwall's *A. Sulzeri*.

In accordance with the above determination I included two species in my systematic list (*l. c. supra*), viz. *A. piceus*, Sulz., = *A. Sulzeri*, Bl., ♀, and *A. affinis*, Eichw., = *A. Sulzeri*, Bl., ♂.

Dr. Thorell published the results of his examination and comparison of my specimens with those of Dr. Koch and others in his 'Remarks on Synonyms of European Spiders,' Upsala, April 1873. Subsequently to this, as well as to the publication of my systematic list, a paper, written also in 1873, by M. Eugène Simon, came into my hands. In this paper the determination made as to the British species of *Atypus* is widely different from that come to by Dr. Thorell—M. Simon resolving Mr. Blackwall's *A. Sulzeri* into a species characterized by himself under the name of *A. Blackwalli*, remarkable for the strong excavation or impression on the inner side near the base of each of the falces.

Possessing the male of an *Atypus* given me by the late Mr. R. Beck and quite distinct from the type of *A. Sulzeri*, Bl., and having lately received some female examples of an *Atypus* sent to me from the Isle of Wight by Mr. J. H. Pearson (and which seemed to me at first distinct from either of the two former), as well as typical examples, both male and female, of *A. piceus*, Sulz. (Sim.), from M. Simon himself, captured at Troyes, France, I wished to obtain the opinion of the latter arachnologist upon the British species in my possession—the more especially as on a close comparison I could discover no distinction between the type (♂) of *A. Sulzeri*, Bl., and *A. piceus*, Sulz. (Sim.). M. Simon now decides the two latter to be identical, and the females received from the Isle of Wight to be of the same species; while the Portland female (considered by Dr. Thorell to be *A. piceus*, Sulzer), is decided to be quite distinct by M. Simon, and probably the female of the male received from Mr. R. Beck.

From the differential characters of *A. piceus*, Auss. (Thor.), and *A. anachoreta*, Auss., mentioned (*l. c. supra*) by Dr. Thorell, the former of these two spiders seems to be very closely allied to the example received from Mr. R. Beck; and it is possible that the two may eventually, on comparison, be proved to be identical; in the absence, however, of a rigid comparison of typical examples I do not venture now to decide this point—preferring rather to describe the example in my possession as a distinct species, at the same time differentiating it from my type of *A. Sulzeri*, Bl. (see *post*, p. 242), and leaving it to a future opportunity to determine its synonymic position.

It is possible that *A. piceus*, Thor. & Auss., rather than *A. piceus*, Sim., may be the true *Aranea picea* of Sulzer—in which case *Atypus piceus*, Sim., and *A. Sulzeri*, Bl., will probably become synonyms of *A. anachoreta*, Auss., or *A. affinis*, Eichw.; the full materials, however, for this determination are not yet

before me, and I therefore hesitate to speak confidently on the point.

At present I conclude as certainly synonymic *A. Sulzeri*, Bl., *A. piceus*, Sim., and *A. anachoreta*, Auss. Chiefly on M. Simon's authority I conclude these to be *A. piceus*, Sulz. There will then remain *A. piceus*, Thor., and my English example, found by Mr. Beck, and which I have (*post*, p. 242) described under the name of *A. Beckii*, to be determined, as to their identity or the contrary, at some future time, when a comparison of typical examples may be had.

Of *A. piceus*, Sim. (*A. Sulzeri*, Bl.), the only males yet recorded as British are the one figured and described by Mr. Blackwall in 'Spid. of Great Brit. and Irel.' and one other, found by myself in the same locality where the first was obtained; females appear to be frequent in one locality near Ventnor in the Isle of Wight. Mr. Pearson has kindly sent me from thence some of the tubular nests as well as the spiders themselves; among the nests is one with a short sac-like enlargement or branch near the upper end, opening into the main tube. This enlargement seems to bear some analogy to the branches in the tubes of some species of *Nemesia* (described and figured by the late Mr. J. T. Moggridge in his interesting book on Trapdoor Spiders); it is, however, perhaps only an accidental occurrence. At my suggestion Mr. Pearson most kindly dug out several nests with great care, noting their form and length and any other point that appeared likely to be of interest or importance. It is from this source that the following details have been obtained.

The nests are generally found in those parts of the Down where the grass is longer than usual and not so matted about the roots. A favourite position is the side of an overhanging or projecting bit of turf, bare of vegetation but covered by the overhanging grass. The exterior portion of the tube is not, usually, more than from an inch to an inch and a half in length, the subterranean part being much longer, about two thirds or three fourths of the whole. The protruding portion is in general partially inflated, sometimes erect, sometimes prostrate, the part nearest the ground being then secured to the earth by the small fibres of the roots of neighbouring grasses. With regard to the aperture, many nests have the envelope of very slight and fragile texture at the summit, so that it is often torn and rent; but in the more perfect specimens no trace of an opening has hitherto been discovered. A nest perfect and apparently imperforate from top to bottom, and containing the spider inside it, was buried in a large box of earth; subsequently the tube was observed with a wide open mouth,

appearing as if the spider had forced its way through the substance of the nest. Shortly after, the spider was observed to be engaged about the mouth as though making a new top to the nest; and on the following morning the extremity of the tube was again closed and presented the same appearance as at first, being only smaller. There appears to be considerable variation in the shape of the nests: the middle portion is narrow and very much wrinkled and folded; the dilatation that succeeds is generally somewhat pear-shaped, with the small end downwards; the bottom of the tube is extremely fragile (the most fragile part of the whole nest), being a mere web, which sometimes fits tightly round the spider, enveloping it like the covering of a ball. A very common form of nest is that of a stocking with bends corresponding to the knee and heel, at which last the dilatation occurs. A spider in captivity took possession of an empty nest lying on the earth, and, making a hole in the side of the nest next to the ground, began to form a new tube connected with the old one. [In this way, possibly, the branched nest mentioned above was formed.] One day a spider was observed in the act of making a new nest: it first spun a cylindrical web, attaching it to the stems of grasses; it then began to excavate the earth (apparently with the sharp claws of its falcæ), turned completely round, placed the earth against the sides of the web, patting it all over with its feet and smoothing it with its abdomen, and then repeating the operation. The nests dug out varied in their total length from $5\frac{1}{4}$ to $9\frac{1}{2}$ inches.

The exuvie of the spiders after moulting are commonly found in the nests; and in some instances the remains of beetles and other hard-shelled insects were found.

Atypus Blackwalli.

Atypus Blackwalli, Sim. Ann. Soc. Ent. Fr. 1873, tom. iii. p. 110, pl. 4. figs. 6-9. (Exclude reference to plate, *l. c.*, as well as synonymic reference to *A. Sulzeri*, Bl.)

M. Simon (*l. c.*) places *A. Sulzeri*, Bl., among the synonyms of a new species to which he gives the name (suggested by A. Ausserer, *l. c.* p. 133) of *A. Blackwalli*.

This synonymic determination is undoubtedly a mistake, and is implied to be so by M. Simon himself in his recent determination of the identity of the type (σ) of *A. Sulzeri*, Bl., with that of *A. piceus*, Sim.

Among other examples of *Atypus* lately submitted by myself to M. Simon were two immature examples which appeared to me to have had the falcæ crushed or shrunken in near

their base on the inner sides. M. Simon, however, determines them without any doubt to be examples of *A. Blackwalli*, in which this peculiar form of the falces is a leading characteristic. One of these examples was found by myself in the Island of Portland; the other was received from the Isle of Wight, where it was found by Mr. Pearson and kindly sent to me among females of *A. piceus*, Sim.

Atypus Beckii, sp. n. Pl. VIII. fig. 1.

Adult male, length $4\frac{3}{4}$ lines.

This spider is nearly allied to *A. piceus* (Sulzer); it appears, however, to be larger and rather broader in proportion, and it differs in the form of the cephalothorax and falces, as well as in the structure of the palpal organs and size and relative position of the eyes.

The whole of the fore part, including the legs and palpi, are of a rich deep red-brown colour; the abdomen is black, with the characteristic coriaceous patch on the fore part of the upperside of a large size and dark reddish brown colour; the hinder slope of the caput is rather abrupt and rounded in its profile-line: the central part of the ocular area is prominent, and, looked at in profile, full and rounded in front (much more so than in *A. piceus*); looked at from above its fore extremity is of a blunt angular form and projects a little beyond the margin of the clypeus, while in *A. piceus* the fore extremity is round and does not reach to the clypeal margin, and its colour is black; the thorax is flattened and the normal indentations strong.

The eyes are in the usual position, the central pair occupying the upper part of the large central ocular tubercular prominence; these two eyes are smaller than those of the corresponding pair in *A. piceus*, and the interval between them exceeds an eye's diameter by nearly or quite one half, while in *A. piceus* the interval no more than equals a diameter, certainly does not exceed it. The lateral groups are also further from the central pair in the present spider than in *A. piceus*, forming, when looked at from above, a transverse oblong area of far greater extent than in this latter species.

The *fulces*, though of the same general character as in *A. piceus*, are rather longer and stronger, though perhaps not quite so prominent at their base on the upperside.

The *palpi*, although very similar in general character and appearance to those of *A. piceus*, show a strong and decided difference on a comparison of the palpal organs; this distinction

will be best seen by comparing the figures given (Pl. VIII.) of these parts in the two species.

The *maxilla*, *labium*, and *sternum* present no marked difference from those of *A. piceus*, nor does the abdomen: the spinners also (6 in number) are similar; the terminal joints, however, of those of the superior pair had been accidentally broken off before the example came into my possession.

A single adult male was sent to me some years ago by the late Mr. Richard Beck, of Cornhill, London, by whom it was found in the neighbourhood of Hastings. I have hesitated to describe this species until I had been able to compare it with continental examples of *A. piceus*, as well as to obtain the opinion of M. Eugène Simon upon its specific identity.

M. Simon has kindly sent me lately examples of *A. piceus*, and characterizes the present as a very distinct species from all known to him on the continent of Europe.

An adult female, agreeing with the male above described in the form of the ocular prominence, was found by myself, in the autumn of 1855, in the Island of Portland, and is no doubt of the same species.

Genus MICARIA, C. Koch.

Micaria scintillans.

Drassus scintillans, Cambr. Trans. Linn. Soc. xxvii. p. 412, pl. 54. no. 12, A.

By an unaccountable oversight this spider was unfortunately omitted from my "Systematic List of British Spiders," Linn. Trans. 1874, vol. xxx. p. 321.

In a recent visit to the Isle of Portland I found both sexes, adult and in considerable abundance, running in bright sunshine on the grassy slopes towards the sea near Pennsylvania Castle. A large blackish ant was abundant on the same slopes, and it was exceedingly difficult at first to distinguish the spiders. The hue of the two in the bright sunshine was remarkably similar, and their respective movements ridiculously alike.

The only way in which I could, with any certainty, capture the spiders (owing to the general swiftness of their movements, and the rapidity with which they glided down among the stems and roots of the herbage) was by suddenly and quickly popping an empty inverted glass tube of good size over them; and as they invariably rushed up the tube, it was easy to transfer them thence to the spirit-bottle.

Genus DRASSUS, Walck.

Drassus criminalis, sp. n. Pl. VIII. fig. 3.

Adult female, length very nearly $3\frac{1}{4}$ lines.

The whole of the fore part of this spider is of a bright yellow-brown colour, that of the falces and labium being, however, rather deeper than the rest, and the cephalothorax bordered with a fine blackish line, the abdomen being of a uniform dull mouse-coloured black.

The *cephalothorax* is of ordinary form, the thoracic junction, however, being (in profile) a little higher than the occipital region; the normal grooves and indentations are not strongly marked, but are plainly indicated by dusky lines converging to the thoracic junction; the surface is thinly clothed with hairs, some of which are rather long, particularly those on the central longitudinal line and on the clypeus, where they are, in fact, bristles; the height of this latter part exceeds the diameter of the fore lateral eyes.

The *eyes* are of tolerable size and placed in the usual two transverse rows; the hinder row is longest and rather the most curved, the convexity of the curves of both being directed backwards: the eyes of the hind central pair are of a somewhat subtriangular shape and are almost, but not quite, contiguous to each other, and the interval between each and the hind lateral eye on its side is about equal to the diameter of the latter; those of each lateral pair are obliquely placed, the interval between them being nearly equal to the diameter of the hinder eye; those of the fore central pair (which are the smallest of the eight) are separated by an interval slightly exceeding an eye's diameter, and each is divided from the fore lateral on its side by a very slight interval, not more than one third of that which separates the fore centrals from each other.

The *legs* are strong, but not very long; their relative length appears to be 4, 1, 2, 3, though there is but little difference, if any, between those of the fourth and first pairs; they are furnished with hairs, bristles, and spines, the latter chiefly on the tibiae and metatarsi of those of the third and fourth pairs; each tarsus terminates with two curved pectinated claws, beneath which is a small scopula of papilliform hairs, and beneath the tarsi are some other hairs of the same kind.

The *palpi* are strong, moderately long, and furnished with hairs, bristles, and spines; the cubital and radial joints are equal in length, the digital being nearly equal to both together, and terminating with a small, black, curved claw.

The *falces* are moderately long, strong, a little projecting and prominent at their base in front; their fore surface is furnished with strongish prominent bristles, and on their outer sides and towards the extremities they are slightly rugulose; the fang is short and strong, and on the hinder edge of the groove in which it lies when at rest are a few short strongish teeth.

The *maxilla*, *labium*, and *sternum* are of the normal form and furnished with hairs and bristles.

The *abdomen* is oval, moderately convex above, and projects fairly over the base of the cephalothorax; it is of a dull mouse-coloured blackish hue, and clothed thinly with hairs: along the middle of the upperside the six pale, elongate, linear spots frequently seen on the abdomen of species of this genus are indistinctly visible: the spinners are short, and of a brownish yellow colour, those of the inferior pair being much the longest and strongest; the genital aperture is large and of a simple but characteristic form.

A single adult example was found by myself under a stone on Bloxworth Heath in May 1874.

Drassus delinquens, sp. n. Pl. VIII. fig. 4.

Adult female, length $2\frac{2}{3}$ lines.

The cephalothorax of this very distinct species is of a yellow-brown colour, tinged with dull orange, and clothed sparingly with hairs; the legs and palpi are rather paler, and the *falces*, *maxillæ*, *labium*, and *sternum* darker, the *labium* being the darkest. The form of the cephalothorax is of the ordinary type; the normal grooves and indentations are not strong, though well defined by fine blackish and rather irregular lines which converge towards the thoracic junction; the height of the clypeus rather exceeds the diameter of one of the fore central eyes.

The *eyes* are of tolerable size, and placed in two transverse, and nearly parallel, curved rows, the convexity of the curve being directed backwards and the hinder row being the longest; those of the hind central pair are oval in form, obliquely opposed to each other, and almost contiguous; each is separated from the hind lateral on its side by an interval equal to its own longest diameter; those of each lateral pair are separated by an interval slightly less than the diameter of the hinder eye, which is smaller than the fore one; those of the fore central pair (the smallest of the eight) are about an eye's diameter distant from each other, and each is very nearly contiguous to the fore lateral eye on its side.

The *legs* are tolerably strong, but not very long; and their relative length appears to be 4, 1, 2, 3; they are furnished with hairs and a very few spines; each tarsus ends with two curved pectinated claws, and beneath the tarsi are some papilliform hairs.

The *falces* are long, strong, prominent at their base in front, and project (though not very strongly) forwards; their front surface is furnished with longish bristly hairs.

The *maxillæ* and *labium* are of normal form.

The *sternum* is heart-shaped and glossy.

The *abdomen* is rather large, of an oval form, slightly truncated before, and not very thickly clothed with hairs; its colour is dull yellow-brown, darker along the middle of the upper-side, where a very distinct pattern is shown, consisting of a strongish, wedge-shaped, dark brown, central, longitudinal marking on the fore part, followed to the spinners by a series of confluent angular bars or chevrons of a similar colour; the vertices of the angles are directed forwards; but the bars do not extend to the sides. The wedge-shaped brown marking has a paler indistinct line along the middle, and two or three irregular pale markings on either side of its hinder half. The spinners are of moderate size; those of the inferior pair are longer and stronger than those of the superior. The form of the genital aperture (which is rather large) is characteristic; its inner margins appear to be corneous and of a bright red-brown colour.

An example of this species, which is certainly new to Britain, and also, I believe, undescribed, was found by myself under a stone on Bloxworth Heath in May 1874.

Genus LETHIA, Menge.

Lethia subniger.

Drassus subniger, Cambr. Trans. Linn. Soc. xxviii. p. 439, pl. 33. fig. 3.

A recent close examination of this little spider has convinced me that it belongs to the genus *Lethia*; doubts concerning its generic affinities have been expressed *l. c. supra*.

Genus ERIGONE (*Neriene*, Bl.).

Erigone Clarkii.

Erigone Clarkii, Cambr. Linn. Trans. xxvii. p. 441, pl. 56. no. 30.

An adult male of this spider (being only the third example of the species yet on record) was found by my son, Robert Jocelyn, on iron railings enclosing the lawn at Bloxworth Rectory, on the 24th of March, 1875.

Erigone Douglasi, sp. n. Pl. VIII. fig. 5.

Adult female, length $1\frac{1}{3}$ line.

The *cephalothorax*, *falces*, and *maxillæ* of this spider are yellow, the occiput, as well as the spaces between the normal grooves and furrows, being suffused with dusky black, and the thoracic margin black.

The form of the cephalothorax is of the ordinary type; the lateral constrictions at the caput are slight, and the whole profile outline forms a tolerably even curve from the clypeus to the end of the hinder slope.

The *eyes* are rather small, but in the usual position, forming a rather narrow, transverse oval figure, and are seated on strong, slightly tuberculate, black spots; those of the hinder row appear to be of the same size, and are separated from each other by equal intervals of an eye's diameter; those of the fore central pair are the smallest of the eight, dark-coloured, contiguous to each other, and each is separated by a diameter's interval from the fore lateral on its side. Each of the hind central eyes is separated from the fore central eye nearest to it by an interval rather greater than the diameter of the former; those of each lateral pair are contiguous to each other and placed obliquely. The height of the clypeus slightly exceeds half that of the facial space; it is rather strongly impressed immediately below the eyes, but projects at its lower margin.

The *legs* are long and tolerably strong; their relative length is 1, 4, 2, 3; they are of a pale yellow colour, and are furnished with hairs, bristles, and a very few long slender spines.

The *palpi* are similar in colour and armature to the legs.

The *falces* are strong and tolerably long, a little inclined backwards, and armed with a few minute teeth on their inner edges towards the extremity.

The *sternum* is small, of the usual heart-shape, and strongly suffused with greenish black.

The *abdomen* is oval, strongly convex above, and its profile line is abruptly curved at the hinder part; its upper part and sides are of a dull greenish black colour, the central longitudinal line being darkest; two thirds of its upperside (towards the hinder part) are marked with a series of tolerably distinct pale yellowish oblique spots or patches in pairs, the first pair being the largest and of an oval shape, the next less in size but more elongated, the rest being simply transverse angular bars or chevrons; the under part is dull pale yellowish, with a broad central, longitudinal, black band enclosing the spinners and reaching to the genital aperture; it is bordered by a whitish line, and its shape is that of an elongated lyre.

The genital aperture is furnished with a strong, somewhat tumid, but simply formed, epigyne (represented by fig. 5, *d*, Plate VIII.); the abdomen is thinly clothed with hair, and projects pretty strongly over the base of the cephalothorax.

A single example of this interesting spider was received from Mr. Douglas, by whom it was found in the spring of 1875 near Castle Douglas, Kirkcudbrightshire, Scotland. It differs from nearly all other known British species of this genus in having a series of large, well-defined, pale markings on the upperside of the abdomen, and a broad, central, longitudinal band on a pale yellowish ground on the underside.

I feel great pleasure in connecting this spider with the name of its discoverer, who appears to be entering upon the study of Scottish spiders with considerable care and zeal.

Erigone (Neriene) nigriceps, sp. n. Pl. VIII. fig. 6.

Adult female, length $1\frac{1}{3}$ line.

The *cephalothorax* of this spider is of ordinary form; the hinder slope rather long and gradual; the upper marginal line, seen in profile, level, there being only the slightest possible depression near the occiput; its colour is orange-yellow, the caput being strongly suffused with black; and there are a few fine bristly hairs along its central line, and within the ocular area; the normal furrows and indentations are visible, but not strongly marked; and the height of the clypeus (which is a little prominent) equals half that of the facial space.

The *eyes* are in the usual position on black tuberculate spots, the foremost row (looked at from the front) being much the shortest and straight. Those of the hind central pair are distinctly nearer to each other than each is to the hind lateral eye on its side, being separated from each other by less than an eye's diameter, and from the hind laterals by at least a diameter, if not a little more; those of each lateral pair are placed obliquely and are contiguous to each other; the fore laterals are largest of the eight, and each is separated from the fore central eye on its side by a very slight, though distinct, interval, those of the fore central pair being almost, but not quite, contiguous to each other.

The *legs* are moderately long, rather strong, particularly the femoral joints, their relative length being apparently 4, 1, 2, 3; they are of an orange-yellow colour, but not so dark as the cephalothorax: the metatarsi and tarsi are rather paler than the rest; their armature consists of hairs and a few slender prominent spine-like bristles on the femoral and tibial joints.

The *palpi* are similar in colour and armature to the legs.

The *falces* are rather long, not particularly strong, slightly divergent and nearly vertical; they are armed on their inner margin, near the extremities, with four or five sharp teeth.

The *maxillæ* are strong, rather long, but of normal form and character; they are furnished with a few bristles, and are of a dusky orange-yellow colour.

The *labium* is of normal form, and suffused strongly with black.

The *sternum* is of the usual heart-shape, considerably convex, and of a glossy bright orange-yellow colour, furnished with a few prominent bristles.

The *abdomen* is of an elongate oval form, not particularly convex above, nor projecting greatly over the base of the cephalothorax; its colour is dull black tinged with olive; and it is clothed thinly with hairs; the genital aperture is of characteristic form, but the epigyne connected with it is not very prominent.

A single example of this pretty and distinct species was found by myself among heather in May 1875, on Bloxworth Heath; the contrast of its dark caput and bright orange thorax and legs makes it, as a British one, rather a striking-looking spider, and I know of no described species of which it might possibly be the hitherto unknown female.

Erigone subitanea, sp. n. Pl. VIII. fig. 7.

Adult male, length $\frac{1}{23}$ inch.

This minute species is nearly allied to *E. præcox*, Cambr.; the latter, however, may be distinguished without difficulty by the greater curvature of the hinder row of eyes, the central eyes of this row being distinctly nearer to each other than each is to the hind lateral on its side; the ocular area is thus broader than in *E. subitanea*, and the clypeus is less in height, being less than half that of the facial space, while in *E. subitanea* it is as nearly as possible equal to half. In this latter species the occiput (looked at in profile) is also a little more gibbous; and the apophysis at the fore extremity of the radial joint of the palpus, although, if any thing, larger than the very similar one in *E. præcox*, is yet much less easily seen, being in close contact with the digital joint, so that when looked at in profile even its extreme point is scarcely visible beyond the surface of the digital joint, while in *E. præcox* it is prominent and very perceptible.

The *cephalothorax* is of ordinary general form and of a brightish yellow-brown colour; the normal grooves and indentations are distinctly, but not strongly, marked; and from

close behind each hind lateral eye a tapering, slightly curved, indentation runs in a longitudinal direction backwards towards the hinder part of the occiput, which is a little gibbous on its upper part; the hinder slope of the cephalothorax is slightly hollow and rather abrupt; and there are two or three short prominent hairs on the central longitudinal line near the thoracic junction.

The *eyes* are in the ordinary position; those of the hinder row are equidistant from each other, the intervals separating them being equal to rather less than the diameter of one of the central pair; those of each lateral pair are seated obliquely on a tubercle; those of the fore central pair are the smallest of the eight, dark and indistinct, but appear to be very nearly, if not quite, contiguous to each other, and each is very near to the fore lateral eye on its side, certainly separated by not more than half a diameter; the interval between each of the hind central eyes and the fore central opposite to it exceeds very little, if at all, the diameter of one of the former.

The *legs* are tolerably long, slender, of a pale orange-yellow colour, furnished with hairs and very slender erect bristles; their relative length appeared to be 4, 1, 2, 3.

The *palpi* are short, slender, and similar in colour to the legs; the radial joint is rather longer and stronger than the cubital, and has at its fore extremity on the upperside a small, slender, slightly tapering production, which adheres closely to the digital joint, and is not very easily made out without careful examination; the digital joint is small, and the palpal organs simple, presenting under an ordinary lens no very remarkable spines or processes.

The *falces* are rather short, but tolerably strong, nearly vertical, similar to the cephalothorax in colour, and armed with a few very minute teeth on their inner margin near the extremity.

The *maxillæ* are similar to the falces in colour, but of normal form.

The *labium* is also of normal form, but rather darker in colour than the maxillæ.

The *sternum* is large, heart-shaped, and very convex, its colour being of a darker shade than that of the cephalothorax.

The *abdomen* is tolerably convex above, and projects over the whole of the hinder slope of the cephalothorax; it is of a dull blackish hue tinged with olive-green and (in spirit of wine) mottled and marked with pale spots and lines, the surface being thinly clothed with short fine hairs.

A single adult male of this, the smallest spider except one (*E. diceros*, Cambr.) that has yet come before me, was found by myself among decayed wood at Bloxworth Rectory in May 1874. Its near affinity to *E. præcox*, Cambr., has been mentioned above. It is allied also very closely to *E. alexandrina*, Cambr., a small spider found in a marsh near Alexandria, Egypt. This latter, however, is a larger species, and differs from the present in the relative position of the eyes, the rather greater gibbosity of the occipital region, as well as slightly in the form of the palpi and structure of the palpal organs.

Genus LINYPHIA, Fabr.

Linyphia expuncta.

Linyphia lepida, Cambr. Linn. Soc. Journ. xi. p. 539, pl. xv. fig. 7.

In conferring the specific name of *lepida* on this spider, it escaped my memory at the moment that Mr. Blackwall had previously (Ann. & Mag. Nat. Hist., Dec. 1866) given it to a spider of the same genus found in the south-east region of Equatorial Africa. I therefore now give the name *expuncta* to the pretty little Scotch *Linyphia* received from Mr. J. W. H. Traill, and at first described, *l. c.*, under the name of *lepida*.

Linyphia aëria, sp. n. Pl. VIII. fig. 8.

Adult male, length rather less than 1 line.

The *cephalothorax* of this small spider is of the ordinary oval form when looked at from above; but when seen in profile the thoracic portion is slightly higher than the caput, the occipital region of which is a little gibbous, and the ocular area sloping downwards. The colour of the cephalothorax is yellow-brown, the margins and normal converging grooves and indentations suffused with dusky brown; and along the central longitudinal line are a few fine bristles of different lengths directed forwards. The clypeus is impressed below the eyes, prominent at its margin, and its height is less than half that of the facial space.

The *eyes* are of tolerable size, and, relatively, do not differ much; they are placed in the ordinary position on black tuberculate spots in two curved rows, forming a transverse oval figure; those of the hinder row, which is the longest and most curved, are equidistant from each other, the interval being less than an eye's diameter; and each of those of the hind central pair is a diameter's distance from the fore central

eye nearest to it ; those of each lateral pair are placed a little obliquely and are contiguous to each other ; those of the fore central pair, the smallest of the eight, are contiguous to each other, and each is very near, but not quite contiguous, to the fore lateral eye on its side.

The *legs* are rather long and slender, of a pale dull yellowish colour, and furnished with hairs and a few longish slender spines ; the latter consist of one on each of the genual joints and three on each of the tibiæ.

The *palpi* are short, slender, and of the same colour as the legs ; the cubital joint is very short, and furnished on its fore side with a fine tapering bristle ; the radial joint is about the same length as the cubital, but stronger ; it is a little more produced in front than behind, and has no distinct prominence or apophysis, being furnished, however, with some not very conspicuous bristly hairs ; the digital joint is of moderate size ; and the palpal organs are rather complex, composed of various spines and corneous processes pretty closely compacted, and no one of which is of a very marked character.

The *falces*, which are similar to the legs in colour, are of moderate length and strength, nearly perpendicular, and a little divergent at their extremity.

The *maxille* are of normal form, a little inclined towards the labium, and similar in colour to the cephalothorax.

The *labium* and *sternum* present no distinctive feature ; and their colour is a dark blackish brown.

The *abdomen* is considerably convex above, and projects a good deal over the base of the cephalothorax ; it is of a dull blackish colour, clothed, but not very thickly, with longish hairs.

The *female* is rather larger than the male, but resembles it in general structure and colour ; the epigyne connected with the sexual aperture is of moderate size, a little prominent and directed forwards.

This spider, which is nearly allied to *L. parvula* (Westr.), may be distinguished by its smaller size, shorter legs, and a rather different relative position of the eyes of the front row—those of the fore central pair in *L. parvula* being smaller, and each further removed from the fore lateral on its side, being an eye's diameter distant from it ; the thoracic junction is also less elevated in *L. parvula* ; and the palpal organs have, at their fore extremity, a distinct coiled filiform black spine, which is entirely wanting in *L. æria*.

Adult examples of both sexes were found running on iron railings at Bloxworth, Dorsetshire, in the autumn of 1873.

Genus *Xysticus*, C. Koch.*Xysticus viaticus*.

Xysticus viaticus, C. Koch, Die Arachn. xii. p. 70, pl. 412. fig. 1003.

X. Kochii, Thorell, Europ. Spid. p. 185, and Syn. Europ. Spid. p. 241.

Thomisus viaticus, Cambr. Linn. Trans. xxviii. p. 528.

Adults of both sexes were found rather frequently among short herbage and on bare spots in different parts of the Island of Portland at the beginning of June 1875. Although I had previously met with this spider, it had been hitherto mixed up with *Xysticus cristatus*; it was not, therefore, until the occasion above referred to that I detected the species at the time of capture, and am consequently able to fix a locality for it with any certainty.

Genus *LYCOSA*, Latr. (*Lycosa*, Blackw. ad partem).*Lycosa arenicola*, sp. n. Pl. VIII. fig. 9.

Adult male, length 3 lines; adult female, $3\frac{1}{2}$ lines.

This spider is nearly allied to *L. fluviatilis*, Bl. (*L. arenaria*, Koch), both in size and general appearance, but may be distinguished by the absence of dilatation behind the eyes in the central pale band on the cephalothorax, as well as by the legs being apparently always free from dark annulations; none at least were visible on the legs of thirty-five examples of both sexes; the characteristic corneous process, springing from the middle of the palpal organs, is also of rather a different form, a little longer, and of a rugulose appearance; the whole of the palpal organs are of a darker as well as rougher and coarser character.

The *cephalothorax* is of a deep black-brown colour, with three longitudinal narrow yellowish bands; each lateral one is removed from the margin by at least its own width, and divided transversely, by sometimes no more than dark lines, into three elongate patches of different sizes; sometimes, however, the dividing lines form more extended dark patches; the central band is narrow, and extends from nearly about half-way down the hinder slope to sometimes the middle of the ocular area, where it fines off into a mere line clothed with pale greyish yellow hairs; both the upper and lower edges of the lateral bands are jagged; the central band is thus broadest at the thoracic junction, and fines off thence to a point both before and behind.

The *legs* are long; their relative length 4, 1, 2, 3; they are of a dull yellowish colour; the tarsi of those of the first pair

are black, as well as also generally the tips of those of the fourth pair, and in some cases of all the rest also : the femora of all the legs are more or less clouded or suffused with black ; and frequently their uppersides have two elongate-oval unsuffused patches, giving them a somewhat striped look ; they are clothed with hairs and long spines.

The *palpi* are of a deep brown colour, approaching to black ; the radial joint is much stronger but no longer than the cubital ; it is, together with the digital joint, of a jet-black colour, thickly clothed with black hairs ; this latter joint is large, broad at the base, and pointed at its fore extremity ; the basal bulb of the palpal organs is large and prominent ; the oblique process just in front of it is long, strong, and curved a little in towards the digital hollow near its extremity ; it is nearly or quite black, and tapers a little to its obtuse extremity, its surface being rather roughened or rugulose.

The *falces* are yellowish, more or less marked with longitudinal stripes or patches of deep blackish brown.

The *maxille* and *labium* are also of a yellowish colour, with their bases generally suffused with brown.

Sternum deep black-brown.

The *abdomen* is dark brown, clothed thickly with hairs varying in hue from grey and yellowish grey to black : in many examples it is difficult to trace the usual pattern ; but in some it is tolerably distinct, especially in immature examples and those only lately come to maturity : the pattern is like that of *L. fluviatilis*, Bl. ; the characteristic elongate marking on the fore half of the upperside is blunt-pointed behind and obtusely angular on each side near the middle, forming an almost elongate-oval stripe, edged indistinctly with black, its own colour being dull brownish yellow, often clothed with pale greyish hairs on either side ; following this marking to the spinners is a row of irregular and generally indistinct blackish spots, between which is a series of angular rusty yellowish hairs, or short, oval, oblique, opposed patches, which diminish in size as they approach the hinder extremity of the abdomen.

The above description fairly applies to both sexes ; but in some females the pattern is much better marked than in others or than in most examples of the male sex ; in such females the angular bars, or opposed oblique patches, have each of them a distinct black spot, which thus appear in a longitudinal series in four or five pairs, each pair placed transversely ; the sides of the abdomen have also a mottled appearance, apparently from numerous small tufts of pale hairs. The legs in most of the females are of a darker hue than those of the

male; and in one or two examples (out of thirty-five) there was a very faint trace of annulation.

The examples from which this description has been drawn were found close to the railway station in the Island of Portland (at the beginning of June 1875), on the edge of the Chesil Beach, among pebbles and brickbats and other débris; they did not appear to be running in sunshine of their own accord, but were very active when disturbed, and easily escaped among the loose pebbles of the beach. I have also two examples (male and female), exactly similar in all respects to those found in Portland, from a similar habitat near Brighton, and also another pair received from Bourg d'Oisans in Normandy.

Although this spider is so nearly allied to *L. fluviatilis*, Bl., that if the two forms should be found inhabiting the same localities it will be scarcely possible to uphold their specific distinctness, yet the absence of annulation on the legs, the simple and constantly attenuated form of the central yellow thoracic stripe, with the slight difference in the form of the palpal organs, are sufficient to mark its specific distinctness from *L. fluviatilis*, in which the legs of the female are *always* annulated, generally very distinctly, and traces of annulation are commonly visible in the male, though some few males certainly have no annulation at all. Now and then also a male of *L. fluviatilis* will be found with no dilatation on the central yellow stripe behind the eyes; but out of many females I have not seen one in which this dilatation is not apparent and generally strongly marked; it is usually also visible, though less strong, in the males. *L. fluviatilis* is often wholly covered with grey hairs, giving it a uniform hoary appearance; this is slightly so, in some cases, in regard to the present species also.

Lycosa agricola, Thor.

Lycosa arenaria, C. Koch, Die Arachn. xv. p. 36, tab. 514. figs. 1441-42.

L. fluviatilis, Blackw. Spid. Gr. Brit. p. 31, pl. ii. fig. 13.

L. agricola, Thor. Rec. Crit. Aran. p. 61; *id.* Syn. Europ. Spid. p. 278.

Dr. Thorell, in his 'Synonyms of European Spiders,' page 280, thinks that probably Mr. Blackwall had before him, in his description of *L. fluviatilis*, examples also of *L. agrestis*, Westr. I do not think so myself: I have examined many examples of both sexes of *L. fluviatilis* sent me by Mr. Blackwall from North Wales; and there is certainly no example of *L. agrestis* among them. Dr. Thorell also appears to have some doubt as to the specific distinctness of *L. agricola* from *L. agrestis*; but the short oblique process of the palpal organs of

L. agrestis, compared with the much longer process in those of *L. fluviatilis*, appears to me quite sufficient to determine their specific distinctness. Examples of *L. decipiens*, L. Koch, sent me by Dr. L. Koch from Germany, agree very exactly with the description of *L. agrestis*, Westr., given by Dr. Thorell, *l. c.*, who also considers these last two species to be identical (*l. c.* p. 282). Examples of *L. arenaria* sent me by Dr. L. Koch I am unable to distinguish from *L. fluviatilis*; but an example of *L. agricola*, Thor., sent me by Dr. Thorell from Sweden, is, I am inclined to think, an example of *L. agrestis* sent by mistake, inasmuch as the oblique process of the palpal organs is not much more than half the length of that of *L. fluviatilis* and *L. arenaria*, being also broader and slightly obliquely truncated at its extremity.

There are now several European species of this group so nearly allied as to be very difficult of determination (see the description of *L. arenicola*, sp. n., *antè*, p. 253). To determine them satisfactorily a considerable series of both sexes of each form from all the localities in which they are found is necessary. Comparative examinations of closely allied species can never lead to a thoroughly satisfactory conclusion when made upon one or two examples only of some one or more of the forms.

Lycosa annulata. Pl. VIII. fig. 10.

Lycosa annulata, Thorell, Syn. Europ. Spid. p. 299.

For several years past I have been aware of there being several British species of *Lycosa* included among my specimens of *L. saccata*, Bl. (*L. amentata*, Clerck); but until lately I have had no opportunity of determining them. Among these spiders one of the most striking and distinct is the present, *L. annulata*, Thor.; it is much smaller than *L. amentata*; the patterns on the cephalothorax and abdomen are very like those of that species; the legs are of a clearer and generally paler yellow colour, but distinctly annulated with dark brown, the annulations extending sometimes to the metatarsi; the palpi, however, independently of all other distinctions, will serve to distinguish it from *L. amentata* at once: the humeral joint is deep brown; the cubital yellow, slightly marked with brown near its base, and clothed with white hairs at its fore extremity; the radial joint is dark brown and, as well as the digital joint, thickly clothed with black hairs, offering a strong contrast to the white cubital joint: the palpal organs are remarkable for the absence of the curved spine characteristic of *L. amentata* and the strong oblique process found in *L. fluviatilis* and others; in their place there is merely a small tubercular process of an oval form.

Examples of this spider were found some years ago at Portland, and more recently at Bloxworth; three adult males were also received in May last from Ventnor, where they were found by Mr. J. H. Pearson, to whom I am indebted for their addition to my collection. The female has not yet been found in England; but I have received that sex also among many examples of the male from the late Mr. J. T. Moggridge, by whom they were found at Nice and Mentone; both sexes were also sent me by C. Collingwood, M.D., by whom they were found at Montreux, Switzerland. The female does not differ in colour and markings from the male; the genital aperture is, like that of nearly all other known spiders, characteristic in the details of its form and size.

In his description of *L. annulata*, Dr. Thorell does not remark upon the pale cubital joint and its white hairs with their necessarily strong contrast to the dense clothing of black hairs on the radial and digital joints. There is no doubt, however, of the identity of the present with his species, inasmuch as he has kindly sent me examples of his *L. annulata*, which in no way differ from those I possess from France, England, or Switzerland.

Lycosa riparia. Pl. VIII. fig. 11.

Lycosa riparia, C. Koch, Die Arachn. xv. p. 29, tab. 512. figs. 1435-36.

Two adult males of this spider were found by myself near Brighton in June 1871. In its general appearance it may easily be mistaken (as I myself mistook it at the time) for *L. amentata*, Clerck; though it is, in reality, more nearly allied to *L. pullata*, Clerck (*L. obscura*, Bl.). It may easily be distinguished from *L. amentata*, Clk., by the long, oblique, tapering, rather obtusely pointed spine in connexion with the palpal organs, to the surface of which latter this spine also adheres more closely in the present than in that species; the digital joint is also longer and much narrower in proportion.

From *L. pullata* it may be distinguished as well by its greater size as by the length and strength of this spine, and also by *the very distinctly annulated legs*. In the two specimens under consideration the legs are entirely annulated, except the tarsi, which are of a brownish yellow hue; *the palpi are black*, which is also another strongly distinctive character.

The central, yellow, thoracic band is, in the two examples noted, obsolete at the occiput; but in a female spider found at the same time and place, and which I believe to be of this species, the central band runs to the eyes, where it dilates as in *L. amentata* and *L. fluviatilis*; as, however, this example was not quite adult, it cannot be considered certain that it is speci-

fically identical with the two males. In *L. pullata* the legs of the female are generally, though not often very distinctly, annulated, while those of the male have rarely any trace of annulation; the general hue of *L. pullata* is also much more of a yellow-brown, while *Lycosa riparia* is nearly black. This spider has not before been recorded as British.

Lycosa prativaga. Pl. VIII. fig. 12.

Lycosa prativaga, L. Koch, Die Arachnidenfauna Galiziens, p. 43.

Very nearly resembling in its general appearance and pattern *L. amentata*, but smaller, *L. prativaga* has passed for a variety of that species in my collection for some years past, having been also returned to me at the time of capture by Mr. Blackwall as small examples of his *L. saccata*. It is, however, more nearly allied to *L. pullata* and *L. riparia*; its legs are very distinctly annulated; and the oblique palpal-organ spine, while very like that of *L. pullata*, has another fine one almost beneath and nearly concealed by it; this additional spine is also present in *L. pullata*, but it is in that species much stronger and more visible.

From *L. amentata*, Clk. (*L. saccata*, Bl.), the much smaller size of the digital joints of the palpi will easily distinguish it.

The female resembles the male in colours and markings; and the genital aperture is characteristically different in form from that of both *L. pullata* and *L. amentata*.

Examples of both sexes have been found at Bloxworth and other localities in Dorsetshire; but hitherto it has not been recorded as British under its proper designation.

Genus ATTUS, Sim.

Attus arcuatus.

Araneus arcuatus, Clerck.

Salticus grossipes, Cambr. Trans. Linn. Soc. xxviii. p. 434; id. *ibid.* p. 527.

A comparison of the examples recorded, *l. c. supra*, with typical specimens of *A. arcuatus* received both from Dr. Thorell and Dr. Koch prove them to be identical. The female has not yet been found in Britain.

Attus fasciatus.

Salticus fasciatus, Hahn, Die Arachn. i. p. 54, pl. xiv. fig. 41; Cambr. Trans. Linn. Soc. xxviii. p. 434.

This spider was found by myself, in some abundance, in June last, among grass and herbage on the eastern side of the Chesil

Beach, Portland. A few examples of both sexes were adult ; but the majority were immature females. Up to this time the only recorded British example has been a mutilated female found by Mr. W. Farren and sent to me by him from the New Forest, Hampshire.

Genus *SALTICUS*, Simon (Latr. ad part.).

Salticus formicarius.

Attus formicarius et *A. formicoïdes*, Walck. Ins. Apt. i. pp. 470, 471.

Salticus formicarius, Cambr. Linn. Trans. xxviii. p. 435.

In addition to the only record of this spider (hitherto) authenticated as British (Linn. Trans. l. c.), I have pleasure in now recording another example of the adult male found by the late J. C. Dale, Esq., at the Salterns, near Lymington, Hants, in August 1865. This example was shown to me lately by Mr. C. W. Dale, of Glanville's Wooton.

List of the Spiders noted and described.

Atypus piceus, Sulz., p. 238, Plate VIII. fig. 2.

— *Blackwalli*, Sim., p. 241.

— *Beckii*, sp. n., p. 242, Plate VIII. fig. 1.

Micaria scintillans, Cambr., p. 243.

Drassus criminalis, sp. n., p. 244, Plate VIII. fig. 3.

— *delinquens*, sp. n., p. 245, Plate VIII. fig. 4.

Lethia subniger, Cambr., p. 246.

Erigone Clarkii, Cambr., p. 246.

— *Douglasi*, sp. n., p. 247, Plate VIII. fig. 5.

— *nigriceps*, sp. n., p. 248, Plate VIII. fig. 6.

— *subitanea*, sp. n., p. 249, Plate VIII. fig. 7.

Linyphia expansa, Cambr., p. 251.

— *aëria*, sp. n., p. 251, Plate VIII. fig. 8.

Xysticus viaticus, C. Koch, p. 253.

Lycosa arenicola, sp. n., p. 253, Plate VIII. fig. 9.

— *agricola*, Thor., p. 255.

— *annulata*, Thor., p. 256, Plate VIII. fig. 10.

— *riparia*, C. Koch, p. 257, Plate VIII. fig. 11.

— *pratiraga*, L. Koch, p. 258, Plate VIII. fig. 12.

Attus arcuatus, Clerck, p. 258.

— *fasciatus*, Hahn, p. 258.

Salticus formicarius, Walck., p. 259.

EXPLANATION OF PLATE VIII.

Fig. 1. *Atypus Beckii*, sp. n., ♂ : *a*, profile ; *b*, spider (without legs), of natural size ; *c*, right palpus, outer side, underneath, in front ; *d*, natural length of spider, including falces ; *e*, ocular eminence, from above and behind.

Fig. 2. *Atypus piceus*, Sulz., ♂ : *a*, right palpus, outer side underneath, rather in front ; *b*, ocular eminence, from above and behind ;

c, ditto, from a French specimen received from Monsieur Eugène Simon.

- Fig. 3.* *Drassus criminalis*, sp. n., ♀ : *a*, spider, without legs, enlarged ; *b*, ditto, in profile ; *c*, eyes, from the front ; *d*, genital aperture ; *e*, natural length of spider.
- Fig. 4.* *Drassus delinquens*, sp. n. : *a*, spider (without legs), enlarged ; *b*, profile ; *c*, eyes, from the front ; *d*, genital aperture ; *e*, natural length of spider.
- Fig. 5.* *Erigone Douglasi*, sp. n. : *a*, profile of spider (without legs), enlarged ; *b*, spider, from above, without legs ; *c*, eyes and falces, from the front ; *d*, genital aperture.
- Fig. 6.* *Erigone nigriceps*, sp. n. : *a*, spider, in profile (without legs) enlarged ; *b*, eyes and falces, from the front ; *c*, genital aperture ; *d*, natural length of spider.
- Fig. 7.* *Erigone subitanea*, sp. n. : *a*, spider in profile (with legs truncated) enlarged ; *b*, eyes and falces, from the front ; *c*, left palpus, inner side in front ; *d*, left palpus, in front, rather on outer side ; *e*, natural length of spider.
- Fig. 8.* *Linyphia aëria*, sp. n. : *a*, spider, in profile (without legs), enlarged ; *b*, eyes, from the front ; *c*, abdomen, in profile ; *d*, right palpus, outer side (inverted) ; *e*, natural length of spider.
- Fig. 9.* *Lycosa arenicola*, sp. n. : *a*, digital joint of ♂, showing structure of palpal organs ; *a-x*, characteristic oblique process of ditto ; *b*, genital aperture of ♀.
- Fig. 10.* *Lycosa annulata*, Thorell : *a*, digital joint of ♂, showing palpal organs ; *a-x*, characteristic obtuse tuberculiform process of ditto ; *b*, genital aperture of ♀.
- Fig. 11.* *Lycosa riparia*, C. Koch : digital joint of ♂, showing palpal organs ; *x*, characteristic oblique spine ; *y*, slender adjacent spine.
- Fig. 12.* *Lycosa prativaga*, L. Koch : *a*, digital joint of ♂, showing palpal organs ; *a-x*, characteristic oblique spine ; *a-y*, slender spine adjacent ; *b*, genital aperture of ♀ (from a German example received from Dr. Ludwig Koch).

XXXII.—Descriptions of new Species of Vespertilionidæ.

By G. E. DOBSON, M.A., M.B., F.L.S., &c.

Genus VESPERTILIO.

Vespertilio, Keys. & Blas. Wieg. Archiv, 1839, p. 304.

a. Feet moderate ; wings to the base of the toes. (Subg. VESPERTILIO.)

Vespertilio africanus, n. subsp.

Ears shorter than the head ; laid forwards the tips do not reach to the end of the muzzle ; tragus acutely pointed. Glands on the side of the muzzle forming a conspicuous rounded elevation on either side between the eye and nostril.

Fur above dark at the base, with greyish extremities ;